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| 1. | a) | What is data mining? Discuss the challenges that motivate the development of data mining. | L2 | CO1 | 10 |
|  | b) | A database has 5 transactions. Let min\_sup=30%   |  |  | | --- | --- | | TID | Items list | | T100 | I1,I2,I3,I4 | | T200 | I1,I2,I4 | | T300 | I1,I5,I6 | | T400 | I1,I4,I5 | | T500 | I1,I2,I4,I5 |  1. List all the candidate 3-itmesets obtained by a candidate generation procedure using the Fk-1XF1 merging strategy 2. List all candidate 3-itemsets obtained by a candidate generation procedure in Apriori. 3. List all the candidate 3-itmesets obtained by a candidate generation procedure using the Brute Force strategy. | L3 | CO1 | 10 |
| 2 | a) | What is data pre-processing? Discuss the various methods of data pre-processing. | L2 | CO1 | 10 |
|  | b) | With an example describe the Apriori algorithm for generating frequent item sets. | L3 | CO1 | 10 |
|  | | **UNIT – II** |  |  |  |
| 3. | a) | Explain the following with examples/diagrams  1. Breadth-First for generating frequent item sets.  2. Depth-First for generating frequent item sets.  3. Maximal Frequent Item Set  4. Closed Frequent item Sets | L2 | CO2 | 12 |
|  | b) | Discuss briefly with an example of various methodologies for applying association analysis to continuous data. | L2 | CO2 | 8 |
| 4. | a) | Generate frequent item sets for the following transactions in the given table using FP growth approach. Given min support =3.   |  |  | | --- | --- | | Trans Id | Items Bought | |  | {a,d,e} | |  | {a,b,c,e} | |  | {a,b,d,e} | |  | {a,c,d,e} | |  | {b,c,e} | |  | {b,d,e} | |  | {c,d} | |  | {a,b,c} | |  | {a,d,e} | |  | {a,b,e} | | L3 | CO2 | 10 |
|  | b) | Discuss the following with an example.   1. Handling categorical attribute in association mining 2. Mining multidimensional association rules 3. Mining multilevel association rules | L2 | CO2 | 10 |